AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listing of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Currently amended) A watch-typed heartbeat sensing device for detecting at least one heartbeat signal of a user, comprising:

a casing having ~~, which defines~~ an internal hollow space ~~and~~ ~~comprises~~ a first end, and a second end; ~~and~~

a watch band with two ends respectively connected to the first end and the second end of the ~~body,~~ casing;

a circuit board ~~which is~~ mounted in the hollow space of the casing, the circuit including ~~comprising~~ a first contact, a second contact, a third contact, a fourth contact and a control circuit, the control circuit including:

a first pre-amplifier having a first input terminal connected to the first contact of the circuit board and a second input terminal connected to the third contact of the circuit board for generating a first differential signal at an output terminal thereof;

a second pre-amplifier having a first input terminal connected to the second contact of the circuit board and a second input terminal connected to the fourth contact of the circuit board

for generating a second differential signal at an output terminal thereof;

a differential amplifier having first and second differential signal input terminals, the first differential signal input terminal being connected to the output terminal of the first pre-amplifier for receiving the first differential signal, the second differential signal input terminal being connected to the output terminal of the second pre-amplifier for receiving the second differential signal, the differential amplifier generating a differential output signal at an output terminal thereof based on the difference between the first differential signal and the second differential signal;

a microprocessor coupled the output terminal of the differential amplifier for receiving the differential output signal, the microprocessor calculating and then outputting a heartbeat signal; and

a display coupled to the microprocessor for receiving the heartbeat signal therefrom and displaying the heartbeat signal;

a first pair of conductors ~~, which is~~ mounted at the first end of the ~~body~~ casing, ~~comprising~~ the first pair of conductors including an inner plate and an outer plate respectively electrically connected to the first contact and the second contact of the circuit board; and

a second pair of conductors ~~, which is~~ mounted at the second end of the ~~body~~ casing, ~~comprising~~ the second pair of conductors including an inner plate and an outer plate and respectively electrically connected to the third contact and the fourth contact of the circuit board;

wherein when the casing is put on a wrist of one hand of the user by means of the watch band, the inner plate of the first pair of conductors and the inner plate of the second pair of conductors contact the wrist of the user, and when the user puts his other hand onto the ~~body~~ casing of the heartbeat sensing device and contacts the outer plate of the first pair of conductors and the outer plate of the second pair of conductors, thereby two pairs of heartbeat signals are generated respectively at the first pair of conductors and the second pair of conductors and transmitted to the control circuit of the circuit board.

Claim 2 (Cancelled).

Claim 3 (Currently amended) The watch-typed heartbeat sensing device as claimed in Claim [[2]] 1, wherein the control circuit further comprises a filter which is connected between the differential amplifier and the microprocessor for filtering the noise of the differential output signal received from the differential amplifier.

Claim 4 (Original) The watch-typed heartbeat sensing device as claimed in Claim 3, wherein the control circuit further comprises a shaping circuit which is connected between the filter and the microprocessor for shaping the heartbeat signal received from the filter.

Claim 5 (Original) The watch-typed heartbeat sensing device as claimed in Claim 1, wherein the inner plate and the outer plate of the first pair of conductors is integrally formed on a bottom surface and an upper surface of the watch band and adjacent to the first end of the casing.

Claim 6 (Original) The watch-typed heartbeat sensing device as claimed in Claim 1, wherein the inner plate and the outer plate of the second pair of conductors is integrally formed on a bottom surface and an upper surface of the watch band and adjacent to the second end of the casing.